[General Comments]

The manuscript presents a novel approach to landslide forecasting by integrating physical methods, rainfall threshold warning methods, and slope unit analysis. The proposed methodology is computationally efficient and has practical applications in regional-scale early warning systems. It is an interesting study and is well-structured. However, several aspects require clarification, deeper discussion, and refinement to strengthen the paper.

Therefore, the article, at current states, needs to be a medium revision, which may be worth publishing for this journal. The following is my comments for further improving the quality of this manuscript.

[Major Comments]:

(1) The use of meteorological QPE/QPF data is critical to triggering warnings, what are the resolutions of QPE and QPF, and will they have any impact on the forecast results

(2) In Section 3.2, the author needs to supplement the relevant details of the direct shear test, such as how to determine the dry density and moisture content of the experiment? Was the test conducted under drainage conditions or without drainage conditions?

(3) How did you ensure the number of iterations or slip surface samples was sufficient to yield stable and representative Fs values across thousands of slope units?

(4) You claimed that the ROC analysis is based on matching predicted unstable HSUs with 583 observed landslide locations, but the method for spatial matching and thresholding is not clearly explained. For example, how are landslide points assigned to HSUs, Please explain.

(5) Methodology - In some cases, I found that you have used abbreviations without mentioning their full forms for the first time. Please fix it. Check all abbreviations. In some headlines, you use lowercase, and on some, uppercase. For example, the discussion on computational efficiency. But in 5.2. You wrote it with uppercase letters (i.e., Further Analysis of Prediction Performance).

(6) Page6, line 18, why is the soil layer divided into 10 layers, with each layer having a thickness of 0.2 meters? I suggest including a brief justification for each major assumption, either by citing validation from past studies or noting its limitations.

(7) Some minor mistakes, such as line 3 on page 15, "fengjie count" should be changed to fengjie county; A few references are cited incorrectly. For example, Pradhan, A., Lee, S.-R., Kim, Y.-T. 2018. A shallow slide prediction model combining rainfall threshold warnings and shallow slide susceptibility in Busan, Korea. Landslides, 16: 6. 47-659. doi: https://doi.org/10.1007/s10346-018-1112-z. You may wish to remove them.